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10/606,509	06/26/2003	John H. Brennan	SP03-072	5215
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CORNING INCORPORATED			LOPEZ, CARLOS N	
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CORNING, NY 14831			PAPER NUMBER	
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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/606,509
Filing Date: June 26, 2003
Appellant(s): BRENNAN ET AL.

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GROUP 1700

Randall S. Wayland
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 2/6/06 appealing from the Office action mailed 6/1/05.

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(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

The amendment after final rejection filed on 8/8/05 has been entered.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

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(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,080,345	CHALASANI ET AL	06-2000
6,287,509	GHEORGHIU	09-2001
6,132,671	BEALL ET AL	10-2000

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 2, 4-6, 8-11, 15-20, and 22-27 are rejected under 35 U.S.C. 103(a) over Beall et al (U.S. Patent No. 6,132,671) in view of Chalasani et al (U.S. Patent No. 6,080,345) and Gheorghiu (U.S. Patent No. 6,287,509).

(10) Response to Argument

Applicant argues that the cited references fail to disclose an organic compound with the lower weight loss onset temperature being substantially removed prior to the organic compound with the higher weight loss onset temperature and where an oxidizing atmosphere is provided. Applicant further notes that the cited references do not teach, following drying, heating in an oxidizing atmosphere to a temperature and for a time to enable sequential removal of the organic compounds, such that the organic

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compound with the lower weight loss onset temperature is substantially removed prior to release of the organic compound with the higher weight loss onset temperature.

In response to the above arguments applicant appears to have misread Beall. Beall is drawn to providing an improved binder system having multiple organic compounds with different weight loss onset temperature in order reduce cracking and differential shrinkage during firing (See Beall Col. 2, lines 60ff). In particular Beall provides for a binder system to consist of a C9 to C12 organic liquid in combination with, among other things, methylcellulose. Beall notes that 90% of the organic liquid would be recovered if its temperature is raised to 225°C and notes that it may be possible to remove the organic liquid during drying. The drying temperature is disclosed in Col. 5 lines 25ff having a range of 100 °C to 110 °C. It is reasoned that a substantial portion of the organic compound with the lower weight loss onset temperature will remain in the ceramic since it has not reached a 90% recovery temperature of 225°C. In view that the organic compound with the higher weight loss onset temperature, such as methyl cellulose, would have a higher weight loss onset temperature due to already having melting point of 290°C, provides a sufficient weight loss onset temperature difference with the organic compound having the lower weight loss onset temperature of 225°C to allow for the lower loss onset temperature organic compound to be substantially removed prior to the second organic compound having a higher weight loss on set temperature when the ceramic body is fired to temperature of 1300°C to 1400°C as noted in Beall Col. 8, lines 55ff.

Alternatively, it is reasonable to assume that the dried ceramic body has some organic compound having the lower weight loss onset temperature remaining in the ceramic body prior to its firing, at the very least 10%, because it never reaches the 90% recoverable temperature of 225°C during drying. Hence, since the claim only requires that "the organic compound with the first weight loss onset temperature being of lowest value" is substantially removed prior to the organic compound with the subsequent higher weight loss onset temperature it is reasonable to conclude that as the temperature of the ceramic article is raised to its firing to temperature of 1300°C to 1400°C, the organic compound with the first weight loss onset temperature being of lowest value will be substantially removed since it would have reached the 90% recoverable temperature of 225°C prior to the methyl cellulose having a higher weight loss onset temperature as indicated by its melting point of 290°C.

Even if it assumed that the instant claims require no loss of the first organic compound after drying, it is noted that Beall states in Col. 5 lines 41ff. that the first organic "can be removed" prior to the actual firing. This clearly suggests that it is optional feature to remove the first organic compound but not a required step.

Additionally, the Applicant's arguments amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Applicant in arguing that the references fail to teach an oxidizing atmosphere fails to recognize that Gheorghiu '509 teaches introducing into the furnace or kiln CO₂ during the first phase heating. CO₂ is introduced into the firing process resulting in a reduction of the

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temperature gradient between the green ceramic body skin and the core, thereby the ceramic body exhibits far less thermal deformation and cracking (column 3, lines 2-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the heating of the green ceramic body to evaporate or burn off the organic compounds (Beall) with the introduction of CO₂ during this heating process to produce a higher quality product with less cracks and other deformities (Gheorghiu '509).

Applicant also alleges that the Examiner does not provide no rationale whatsoever why Beall or Chalasani teaches substantial removal of the first organic compound prior to the release of the second organic compound. The bold and underlined word “or” is to clearly note that applicant is providing a piecemeal analysis of the references when in fact the rejection of the claims are the result of the combined teachings of Beall and Chalasani. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The examiner has provided a rationale as set forth in the final rejection mailed on 6/1/05 pages 3-5. Particularly noting how the above noted temperature differential between the first and second organic compounds allows for the first organic to be substantially removed prior to the subsequent organic compound.

Applicant argues, “Examiner’s position is that “any amount” of removal constitutes substantial removal. This simply does not comport with the common

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meaning of the term.” And points out that “Thus, special considerations must be employed to achieve substantial removal. “

The instant claims merely require a substantial removal of the organic compound having the lower onset loss temperature prior to the compound of the higher onset loss temperature without any regard to the quantity of the first organic compound remaining prior to the firing of the ceramic material.

Applicant further argues that the neither Beall nor Chalasani teach or suggest what special handling considerations might be employed in the firing step to achieve substantial removal of the first prior to the release of the second.

However, it is noted that the claimed invention does not provide the argued feature of “special handling considerations.” Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Moreover, applicant also argues that “Unless the firing conditions are controlled appropriately, substantial removal will not necessarily be obtained.” and in view that the claims do not disclose “special handling considerations” applicant is raising a 35 USC 112 1st paragraph issue. It appears from applicant's statement that it is essential to have “special handling considerations” in order to provide “substantial removal” of the first organic compound with the lower weight loss onset temperature; a limitation that does not appear in the instant claims.

(11) Related Proceeding(s) Appendix

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No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,


Carlos Lopez

Conferees:


Steven Griffin

Patrick Ryan

